Vulnerability of the power sector of Bangladesh to climate change and extreme weather events

Abstract

Rise in temperature and annual precipitation, changes in seasonal rainfall patterns, more frequent and severe extreme weather events, and increased salinity in river water have been observed in Bangladesh in the recent years. Rising temperature will elevate total power consumption and peak power demand especially during the pre-monsoon hot summer season, reduce power plant efficiency and transformer lifetime, and increase the transmission loss. More frequent and severe extreme weather events may cause more disruption in power generation and distribution, and more damage of power infrastructure. Lower river flow in dry season may cause water scarcity in power plants and hamper the production. Increased salinity in river water due to sea level rise may lead to corrosion and leakages in power plants located in the coastal region of Bangladesh. A diversified, decentralized, and climate resilient power system can reduce negative impacts of climate change on power sector of Bangladesh. Adaptation and mitigation strategies must be incorporated in the planning and development of new power systems and the reformation of existing power systems of Bangladesh.